

## **Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: Geometric reconstruction by volumetric mapping and shrinkage

File Name: Supplementary Movie 2

Description: Topological reconstruction

File Name: Supplementary Movie 3

Description: Reconfigurability of a 3D modular origami constructed by the topological reconstruction

File Name: Supplementary Movie 4

Description: Reconfigurable 3D modular origamis with different target shapes – hyperboloid and cone

File Name: Supplementary Movie 5

Description: The effect of topology on reconfigurability